Appendix D

Proposed California Version of Appendix J of the Uniform Plumbing Code

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Recycled Water Systems of the Plumbing Code

DRAFT FOR THE CALIFORNIA PLUMBING CODE TO REPLACE
APPENDIX J OF THE UNIFORM PLUMBING CODE

J1 Recycled Water Systems - General

(a) This appendix applies to the installation, construction, alteration, and repair of recycled water systems intended to supply toilets (water closets), urinals, and trap primers for floor drains and floor sinks. The recycled water system shall not have any connections to the potable water system.

(b) No permit shall be issued until complete plumbing plans have been submitted and approved by the Administrative Authority. No changes to the recycled water system or potable water system may be made without first obtaining permits and approval from the Administrative Authority.

(c)

(d) Before the building may be occupied, the installer shall perform an initial cross-connection test using a temporary connection to a potable water source and the test shall be ruled successful before the recycled water supply can be connected. This testing shall be conducted in the presence of the Administrative Authority or other authorities that have jurisdiction. See Section J8 for further details.

J2 Definitions

The terms “reclaimed water” and “recycled water” have the same meaning and either may be used in place of the other. The more modern term is “recycled water”, and is the term used throughout this Code.

J3 Permit

It is unlawful to construct, repair, or modify a recycled water system without first obtaining a permit to do such work from the Administrative Authority.

J4 Drawings and Specifications

(a) Drawings and specifications for recycled water systems shall be in accordance with the requirements identified in Chapter 1, Administration, of the California Plumbing Code.

(b) The drawings and specifications shall provide sufficient detail to determine compliance with the requirements of this Appendix and the California Plumbing Code.

J5 Pipe Material / Pipe Identification

(a) Recycled water piping and fittings shall be as required in the California Plumbing Code.

(b) All recycled water pipe shall be permanently marked to identify that it contains recycled water. This may be accomplished by labeling piping using purple adhesive plastic tape along the entire length of the pipe or using non-metallic pipe manufactured with purple color integral to the material. For either pipe material, the identification system shall be clearly legible and installed so that the following wording is clearly visible: "Caution: Recycled Water – Do Not Drink".

J6 Installation

(a) The portions of the recycled water piping system in areas subject to access by the general public shall not include any hose bibbs. Only quick couplers that differ from those used on the potable water system shall be used on the portions of the recycled water piping system in areas subject to public access.

(b) The recycled water system and the potable water system within the building shall be provided with the required appurtenances (valves, air vacuum relief valves, etc.) to allow for testing as required by Section J8 of this appendix.

J7 Signs

(a) Within each bathroom or restroom facility where recycled water is used, a sign shall be installed with the following wording:

TO CONSERVE WATER,
THIS BUILDING USES RECYCLED WATER TO FLUSH TOILETS AND URINALS

(b) Each equipment room containing recycled water equipment shall have a sign posted with the following wording in one (1) inch (25.4 mm) letters on a purple background:

CAUTION
RECYCLED WATER, DO NOT DRINK.
DO NOT CONNECT TO DRINKING WATER SYSTEM.
NOTICE
CONTACT BUILDING MANAGEMENT BEFORE
PERFORMING ANY WORK ON THIS WATER SYSTEM.

This sign shall be posted in a location that is visible to anyone working on or near recycled water equipment.

(c) Where tank-type toilets (water closets) are flushed with recycled water a permanent sign (such as plastic or stainless steel) shall be installed inside the tank to warn that the water within the tank is not a suitable emergency water supply. The sign wording shall be: RECYCLED WATER – DO NOT DRINK.

(d) Each recycled water valve within a wall shall have its access door into the wall equipped with a warning sign approximately six (6) inches by six (6) inches (152.4 mm x 152.4 mm) with wording in one half (1/2) inch (12.7 mm) letters on a purple background. The size, shape and format of the sign shall be substantially the same as that specified in subsection (b) above. The signs shall be attached inside the access door frame and shall hang in the center of the access door frame. This sign requirement shall be applicable to any and all access doors, hatches, etc. that provide access to recycled water piping and appurtenances.

(e) Valve Seals. The master recycled water shut-off valve and/or the recycled water meter curb cock and each valve within a wall shall be sealed so as to prevent operation without breaking the seal after the recycled water system has been approved, and placed into operation. These seals shall either be a crimped lead wire seal, or a plastic breakaway seal which, if broken after system approval shall be deemed conclusive evidence that the recycled water system has been accessed. The seals shall be purple and sequentially numbered with the words "RECYCLED WATER", and shall be supplied by the recycled water purveyor, or by other arrangements acceptable to the Administrative Authority.

J 8 Inspection and Testing

(a) Recycled water piping shall be tested as outlined in this Code for testing of potable water piping.

(b) An initial Cross-Connection Test and subsequent Annual Visual System Inspection shall be performed as follows:

(1) Annual Visual System Inspection. A visual system inspection shall be conducted annually by the Administrative Authority or other authorities having jurisdiction.

(i) Meter locations of the recycled water and potable water lines shall be checked to verify that no modifications were made, or cross-connections are visible.

(ii) All pumps and equipment, equipment room signs, and exposed piping in equipment room shall be checked.

(iii) All valves shall be checked to insure that valve lock seals are still in place and intact. All valve access door signs shall be checked to verify that no signs have been removed.

(iv) If the visual test indicates that the recycled plumbing has been modified, a Cross-Connection Test is required.

(2) Cross-Connection Test. The applicant shall perform the following test before the building may be occupied or at other times when there is material reason to believe that the system separation has been compromised. The test shall be conducted in the presence of the Administrative Authority or other authorities having jurisdiction to determine if a cross-connection has occurred.

Cross-connection testing, following the procedures listed below, shall not be required, unless the results of the visual inspection indicate it is needed. Alternate inspection and testing requirements may be allowed by the Administrative Authority for institutional or industrial buildings where

shutting off the water is not practical. The recycled water purveyor, or other designated appointee may substitute for the Administrative Authority in the above-mentioned inspection and tests unless the Administrative Authority objects.

(i) The potable water system shall be activated and pressurized. The recycled water system shall be shut down and completely depressurized.

(ii) The potable water system shall remain pressurized while the recycled water system is depressurized. The minimum period the recycled water system is to remain depressurized shall be determined on a case-by-case basis, taking into account the size and complexity of the potable and recycled water distribution systems.

(iii) All fixtures, potable and recycled, shall be tested and inspected for flow. Flow from any recycled water system outlet shall indicate a cross-connection. No flow from a potable water outlet would indicate that it may be connected to the recycled water system.

(iv) The drain on the recycled water system shall be checked for flow during the test and at the end of the period.

(v) The potable water system shall then be completely depressurized.

(vi) The recycled water system shall then be activated and pressurized. For the initial test, a temporary connection to a potable water supply will be required to test the recycled water system plumbing.

(vii) The recycled water system shall remain pressurized while the potable water system is depressurized. The minimum period the potable water system is to remain depressurized shall be determined on a case-by-case basis.

(viii) All fixtures, potable and recycled shall be tested and inspected for flow. Flow from any potable water system outlet shall indicate a cross-connection. No flow from a recycled water outlet would indicate that it may be connected to the potable water system.

(ix) The drain on the potable water system shall be checked for flow during the test and at the end of the period.

(x) If there is no flow detected in any of the fixtures which would have indicated a cross-connection, the potable water system shall be repressurized.

(3) In the event that a cross-connection is discovered, the following procedure shall be activated immediately:

(i) Recycled water piping to the building shall be shut down at the meter, and the recycled water system shall be drained at the riser.

(ii) Potable water piping to the building shall be shut down at the meter.

(iii) The cross-connection shall be uncovered and disconnected.

(iv) The building shall be retested following procedures listed in subsections (b)(1) and (b)(2) above.

(v) The potable water system shall be chlorinated with fifty (50) parts per million (ppm) chlorine for twenty-four (24) hours.

(vi) The potable water system shall be flushed after twenty-four (24) hours, and a standard bacteriological test shall be performed. If test results are acceptable, the potable water system may be recharged.

J 9 Sizing

Recycled water piping shall be sized as outlined in the California Plumbing Code for sizing potable water piping.